

CLAIMS

1. An operations architecture for a data warehouse computing system, comprising:

a server connected with a client; and

a software distribution tool, a configuration and asset management tool, a fault management and recovery management tool, a capacity planning tool, a performance management tool, a license management tool, a remote management tool, a event management tool, a systems monitoring and tuning tool, a security tool, a user administration tool, a production control application set and a help desk tool supporting said server and said client in said data warehouse computing system.

2. The operations architecture of claim 1, wherein said software distribution tool provides automated delivery to, and installation of, applications on said server and said client.

3. The operations architecture of claim 1, wherein said configuration and asset management tool that manages a plurality of predetermined assets connected with said data warehouse computing system.

4. The operations architecture of claim 3, wherein said predetermined assets may be selected from the group consisting of said server, said client, a product license information file, a warranty information file, a vendor name file, a logical device information file and a physical device information file.

5. The operations architecture of claim 1, wherein said fault management and recovery management tool assists in the diagnosis and correction of a plurality of system faults in said data warehouse computing system.

6. The operations architecture of claim 1, wherein said capacity planning tool monitors a plurality of predetermined system usage levels in said data warehouse computing system.

09705576 "10300

7. The operations architecture of claim 6, wherein said system usage levels may be selected from the group consisting of server processing usage, server bandwidth usage, server storage usage and client usage.

5

8. The operations architecture of claim 1, wherein said performance management tool monitors the performance of applications running on said data warehouse computing system.

10

9. The operations architecture of claim 1, wherein said license management tool manages and controls license information for applications running on said data warehouse computing system.

15

10. The operations architecture of claim 1, wherein said remote management tool allows support personnel from said data warehouse computing system to take control of said client.

20

11. The operations architecture of claim 1, wherein said event management tool is responsible for handling a plurality of predetermined events in said data warehouse computing system.

25

12. The operations architecture of claim 11, wherein said predetermined events may be selected from the group consisting of disk space indications, central processing unit utilization indications, database error indications, network error indications and file and print service indications.

30

13. The operations architecture of claim 1, wherein said systems monitoring and tuning tool monitors applications, middleware, databases, networks, clients and servers on said data warehouse computing system.

14. The operations architecture of claim 1, wherein said security tool includes applications that provide security to said data warehouse computing system.

09705576-110300

15. The operations architecture of claim 1, wherein said user administration tool is used for administering users of said data warehouse computing system.

5 16. The operations architecture of claim 1, wherein said production control application set is used for scheduling and processing a plurality of production processes on said data warehouse computing system.

10 17. The operations architecture of claim 16, wherein said production control application set may be selected from the group consisting of a print management tool, a file transfer and control tool, a mass storage management tool, a backup and restore tool, a archiving tool and a system startup and recovery tool.

15 18. The operations architecture of claim 1, wherein said help desk tool provides a help application for assisting users of applications on said data warehouse computing system.

19. An operations architecture for a data warehouse computing system, comprising:

- 20 a server connected with a client;
- a software distribution tool for providing automated delivery to, and installation of, an application on said server or said client;
- a configuration and asset management tool for managing a plurality of predetermined assets connected with said data warehouse computing system;
- 25 a fault management and recovery management tool for assisting in the diagnosis and correction of a plurality of system faults in said data warehouse computing system;
- a capacity planning tool for monitoring a plurality of predetermined system usage levels in said data warehouse computing system;
- 30 a performance management tool for monitoring the performance of applications running on said data warehouse computing system;

09705576-110300

a license management tool for managing and controlling license information for applications running on said data warehouse computing system;

a remote management tool allowing support personnel from said data warehouse computing system to take control of said client;

5 a event management tool for handling a plurality of predetermined events in said data warehouse computing system;

a systems monitoring and tuning tool for monitoring applications, middleware, databases, networks, clients and servers;

10 a security tool that includes a security application that provides security to said data warehouse computing system;

a user administration tool for administering users of said data warehouse computing system;

15 a production control application set for scheduling and handling a plurality of production processes on said data warehouse computing system; and

a help desk tool including a help application that provides users of applications on said data warehouse computing system with assistance.

20 20. The operations architecture of claim 19, wherein said predetermined assets may be selected from the group consisting of said server, said client, a product license information file, a warranty information file, a vendor name file, a logical device information file and a physical device information file.

25 21. The operations architecture of claim 19, wherein said system usage levels may be selected from the group consisting of server processing usage, server bandwidth usage, server storage usage and client usage.

30 22. The operations architecture of claim 19, wherein said predetermined events that said event management tool handles may be selected from the group consisting of disk space indications, central processing unit utilization, database error indications, network error indications and file and print server indications.

09705576 110300

23. The operations architecture of claim 19, wherein said production control application set may be selected from the group consisting of a print management tool, a file transfer and control tool, a mass storage management tool, a backup and restore tool, a archiving tool and a system startup and recovery tool.

5

24. A method of providing an operations architecture for a data warehouse computing system including a client and a server, comprising the steps of:

using a software distribution tool for providing automated delivery to,
and installation of, a predetermined application on said server or said client;

10

managing a plurality of predetermined assets connected with said data warehouse computing system with a configuration and asset management tool;
assisting in the diagnosis and correction of a plurality of system faults in said data warehouse computing system with a fault management and recovery management tool;

15

monitoring a plurality of predetermined system usage levels in said data warehouse computing system with a capacity planning tool;

monitoring the performance of applications running on said data warehouse computing system with a performance management tool;

20

managing and controlling license information for applications running on said data warehouse computing system with a license management tool;

allowing support personnel to take control of said client with a remote management tool;

handling a plurality of predetermined events in said data warehouse computing system with a event management tool;

25

monitoring a plurality of computing devices connected with said data warehouse computing system with a systems monitoring and tuning tool;

securing said data warehouse computing system with a security tool;

administering users of said data warehouse computing system with a user administration tool;

30

scheduling and handling a plurality of production processes on said data warehouse computing system with a production control application set; and

helping users encountering problems with applications on said data warehouse computing system with a help desk tool.

25. The method of claim 24, wherein said predetermined assets may be selected from the group consisting of said server, said client, a product license information file, a warranty information file, a vendor name file, a logical device information file and a physical device information file.

26. The method of claim 24, wherein said system usage levels may be selected from the group consisting of server processing usage, server bandwidth usage, server storage usage and client usage.

27. The method of claim 24, wherein said predetermined events that said event management tool handles may be selected from the group consisting of disk space indications, central processing unit utilization, database error indications, network error indications, application error indications and file and printer service indications.

28. The method of claim 24, wherein said production control application set may be selected from the group consisting of a print management tool, a file transfer and control tool, a mass storage management tool, a backup and restore tool, a archiving tool and a system startup and recovery tool.

29. A development architecture for a data warehouse computing system, comprising:

at least one server connected with a client;

wherein said server provides a common user interface between said server and said client, said server also providing at least one process management tool, at least one personal productivity tool, at least one quality management tool, at least one system building tool, at least one environment management tool, at least one program and project management tool, at least one personal productivity tool and at least one information management tool for use by said client.

30. The development architecture of claim 29, wherein said common user interface is used by said server to provide a graphical user interface to said client.

5 31. The development architecture of claim 29, wherein said process management tool allows one of said tools to communicate with at least one other respective tool.

10 32. The development architecture of claim 29, wherein said personal productivity tool may be selected from the group consisting of a spreadsheet application, a graphic application, a word processing application and a personal calendar application.

15 33. The development architecture of claim 29, wherein said quality management tool may be selected from the group consisting of a quality function development tool, a measurement and metrics tool, a statistical process control tool and a continuous improvement tool.

20 34. The development architecture of claim 29, wherein said system building tool may be selected from the group consisting of a analysis and design tool, a reverse engineering tool, a construction tool, a testing tool and a configuration management tool.

25 35. The development architecture of claim 34, wherein said analysis and design tool may be selected from the group consisting of a data modeling tool, a process modeling tool, a database design tool, application logic design tool, a presentation and design tool, a communication design tool, a performance modeling tool and a component modeling tool.

30 36. The development architecture of claim 34, wherein said reverse engineering tool may be selected from the group consisting of a system structure analysis tools.

09705576 "110300

37. The development architecture of claim 34, wherein said configuration management tool include a version control tool and a migration control tool.

38. The development architecture of claim 34, wherein said construction tool may be selected from the group consisting of an extraction tool, a repository population tool, a source code editor tool, a generation tool, and a compiler/likier/interpreter/debugger tool.

39. The development architecture of claim 29, wherein said environment management tool may be selected from the group consisting of a service management tool, a systems management tool, a managing change tool and a service planning tool.

40. The development architecture of claim 29, wherein said program and project management tool may be selected from the group consisting of a planning tool, a scheduling tool, a tracking tool and a reporting tool.

41. The development architecture of claim 29, wherein said team productivity tool may be selected from the group consisting of a E-mail tool, a teamware tool, a publishing tool, a group calendar tool and a methodology browsing tool.

42. The development architecture of claim 29, wherein said information management tools includes a development repository, at least one folder management tool and at least one repository management tool.

43. A development architecture for a data warehouse computing system, comprising:

a server connected with a client, wherein said server provides a common user interface between said server and said client;

a personal productivity tool that may be selected from the group consisting of a spreadsheet application, a graphic application, a word processor

09705576-110300

a quality management tool for assuring that a predetermined agreed upon level of quality is maintained by said data warehouse computing system;

a environment management tool for monitoring the performance of said data warehouse computing system;

a team productivity tool for allowing users on said clients to communicate with other users in the data warehouse computing system;

a process management tool for allowing a respective said tool to communicate with another respective one of said tools in said data warehouse computing system.

45. The development architecture of claim 44, wherein said analysis and design tool may be selected from the group consisting of a data modeling tool, a process modeling tool, a database design tool, application logic design tool, a presentation and design tool, a communication design tool, a performance modeling tool and a component modeling tool.

46. The development architecture of claim 44, wherein said reverse engineering tool may be selected from the group consisting of system structure analysis tools .

47. The development architecture of claim 44, wherein said construction tool may be selected from the group consisting of an extraction tool, a repository population tool, a source code editor tool, a generation tool, and a
5 compiler/likier/interpreter/debugger tool.

48. The development architecture of claim 44, wherein said configuration management tool include a version control tool and a migration control tool.

10 49. The development architecture of claim 43, wherein said environment management tools may be selected from the group consisting of a service management tool, a system management tool, a managing change tool and a service planning tool.

15 50. The development architecture of claim 43, wherein said program and project management tool may be selected from the group consisting of a planning tool, a scheduling tool, a tracking tool and a reporting tool.

20 51. The development architecture of claim 43, wherein said team productivity tool may be selected from the group consisting of a E-mail tool, a teamware tool, a publishing tool, a group calendar tool and a methodology browsing tool.

52. A method of providing a development architecture for a data warehouse computing system, comprising the steps of:

25 providing a server connected with a client, wherein said server provides a common user interface between said server and said client;

30 providing a personal productivity tool that may be selected from the group consisting of a spreadsheet application, a graphic application, a word processor application and a personal calendar application for use by said client and said server;

assuring that a predetermined agreed upon level of quality is maintained by said data warehouse computing system with a quality management tool;

09705576 " 110300

designing, building and testing applications on said data warehouse computing system with a system building tool;

monitoring the status of a project on said data warehouse computing system with a environment management tool;

5 planning, scheduling, tracking and reporting on project segments in said data warehouse computing system with a program and project management tool;

allowing users on said clients to communicate with other users in the data warehouse computing system with a team productivity tool;

10 providing an information management tool including a development repository, a folder management tool and a repository management tool;

communicating with one said tool with another respective tool in said data warehouse computing system with a process management tool.

15 53. The method of claim 52, wherein said system building tool may be selected from the group consisting of a analysis and design tool, a reverse engineering tool, a construction tool and a configuration management tool.

20 54. The method of claim 53, wherein said analysis and design tool may be selected from the group consisting of a data modeling tool, a process modeling tool, , a database design tool, application logic design tool, a presentation and design tool, a communication design tool, a performance modeling tool and a component modeling tool.

25 55. The method of claim 53, wherein said reverse engineering tool may be selected from the group consisting of a system structure analysis tool, .

30 56. The method of claim 53, wherein said construction tool may be selected from the group consisting of an extraction tool, a repository population tool, a source code editor tool, a generation tool, and a compiler/like/interpreter/debugger tool.

09705576 "110300

58. The method of claim 52, wherein said environment management tools may be selected from the group consisting of a service management tool, a system management tool, a managing change tool and a service planning tool.

60. The method of claim 52, wherein said team productivity tool may be selected from the group consisting of a E-mail tool, a teamware tool, a publishing tool, a group calendar tool and a methodology browsing tool.

61. A data warehouse computing system, comprising:
a server connected with a client;
an operations architecture located on one of said server and said client, said operations architecture comprising a software distribution tool, a configuration and asset management tool, a fault management and recovery management tool, a capacity planning tool, a performance management tool, a license management tool, a remote management tool, an event management tool, a systems monitoring and tuning tool, a security tool, a user administration tool, a production control application set, and a help desk tool supporting said data warehouse computing system; and
a development architecture located on one of said server and said client, said development architecture comprising a common user interface between said server and said client, a process management tool, a personal productivity tool, a quality management tool, a system building tool, an environment management tool, a program and project management tool, a personal productivity tool and an information management tool.

62. A data warehouse computing system, comprising:

a server connected with a client;

a data warehouse architecture, located on at least one of the server and the client, for distributing data from a data source to an end-user;

5 a development architecture, located on at least one of the server and the client, for reducing the effort and costs involved with designing, implementing, and maintaining the data warehouse computing system; and

an operations architecture, located on one of the server and the client, for supporting the data warehouse architecture and the development architecture.

09705576 110300